

AMENDMENT TO THE DRAWINGS

A Replacement Sheet is submitted herewith for Fig.8, in which “Example 16” is replaced with “Example 18.”

REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

Claims 1-13 and 15-19 are pending in this application. By this Amendment, claim 1 is amended and claims 3, 6 and 18 are cancelled.

Claim 1 is amended to recite that the compound (1) "is selected from a monovalent to trivalent phenol." Support for this amendment can be found at paragraph [0010] of the specification.

Claim 1 is also amended to include from claim 3 the feature of "a compound (2), which maintains the action of cleaving a hydrogen bond of the compound (1)," as a result of which claim 3 is cancelled.

Claim 1 is also amended to recite that compound (2) "is selected from a carboxylic acid derivative of a monovalent to trivalent phenol." Support for this amendment can be found at paragraph [0015] of the specification.

Paragraph [0015] of the specification is amended to recite "carboxylic acid derivatives of monovalent to trivalent phenol." Support for this amendment can be found at paragraphs [0023] and [0026] of the specification, which disclose the carboxylic acid derivatives of monovalent to trivalent phenol of 3,5-dihydroxybenzenecarboxylic acid and salicylic acid.

Figure 8 is amended to replace "Example 16" with "Example 18." Support for this amendment can be found at paragraph [0052] of the specification.

No new matter is added.

I. Restriction Requirement

The Examiner acknowledges Applicants' election of a composition comprising 1,3-dihydroxybenzene as compound (1), 3,5-dihydroxybenzenecarboxylic acid as compound (2), and methanol as the organic solvent, and states that this is the ultimate species of the joining auxiliary agent composition. The Examiner further indicates that claims 2, 5, 7, 11, 12 and 17 are withdrawn from further consideration as being drawn to non-elected species, there being no allowable generic or linking claims.

However, claims 2, 5, 7, 11, 12 and 17 read on (encompass) the elected species of a joining auxiliary agent which comprises 1,3-dihydroxybenzene, 3,5-dihydroxybenzenecarboxylic acid, and methanol. For example, claim 2 includes an additional component (i.e., a polyamide resin), but it still reads on the elected species and depends on claim 1. Accordingly, Applicants respectfully request rejoinder and examination of claims 2, 5, 7, 11, 12 and 17.

II. Claim Rejections Under 35 U.S.C. § 112, First Paragraph

The Examiner rejects claims 1, 3, 4, 9, 10, 16 and 18 under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for specific compounds (1) and (2), allegedly does not reasonably provide enablement for their corresponding broad recitations.

Although not admitting to the propriety of the rejection, Applicants amend claim 1 to include the feature that compound (1) is selected from a monovalent to trivalent phenol, and to include a compound (2), which is selected from a carboxylic acid derivative of a monovalent to trivalent phenol. Accordingly, claim 1 has been amended to recite the above-identified phenol compounds. Claims 4, 9, 10 and 16 depend directly or indirectly from claim 1. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

The Examiner rejects claims 1, 3, 4, 6, 8-10, 13, 15, 16, 18 and 19 under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicants respectfully traverse the rejection.

With respect to claim 1, the Examiner states that it is unclear if or how the compound is capable of cleaving a hydrogen bond in an already formed molded article. Additionally, the Examiner states that it is unclear as to whether or not “the” polyamide resin in the language “dissolution of the polyamide resin” and “dissolving the polyamide resin” is referring to the polyamide resin of the molded article.

By this Amendment, claim 1 is amended to recite a joining auxiliary agent which comprises three components: a compound (1), a compound (2), and an organic solvent capable of dissolving the polyamide resin. Moreover, compound (1) is defined to be selected from a monovalent to trivalent phenol. Accordingly, claim 1 is definite.

Claim 3 has been cancelled, rendering the Examiner’s comments concerning the claim moot.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

IV. Claim Rejections Under 35 U.S.C. § 102/103

The Examiner rejects claims 1, 3, 4, 6, 9, 10, 16 and 18 under 35 U.S.C. § 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Isobe et al. (JP 2003-089783) (“Isobe”). In addition, the Examiner rejects claims 1, 3, 4, 9, 10, 16 and 18 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Noguchi et al. (JP 10-088075) (“Noguchi”). Applicants respectfully traverse the rejections.

By this Amendment, claim 1 is amended to include a compound (1) and a compound (2).

As discussed in paragraphs [0027] and [0028] of the present specification, including compound (2) in the composition maintains the joining strength of the polyamide resin. For instance, 3,5-dihydroxybenzenecarboxylic acid (a compound (2)) suppresses the dissociation of the phenolic hydroxyl group of 1,3-dihydroxybenzene (a compound (1)) by dissociating itself in the organic solvent, and a part thereof forms a mutual hydrogen bond with the compound (1), maintaining the association state with it after the organic solvent evaporates. Therefore, compound (2) can prevent the oxidation and sublimation of compound (1) simultaneously. Accordingly, the action of compound (1) is not lost. Furthermore, compound (2) can also act on the compound (1) with regard to its hydroxyl group region and carboxyl group region, and can enhance the amorphous nature of the predetermined joining face. See paragraph [0027].

In addition, compound (2) does not evaporate and, as a result, the amorphous state of the surface of the polyamide resin of the predetermined joining face can be maintained for a long period of time. See paragraph [0028]. Accordingly, even if another polyamide resin in addition to the polyamide of the original article to be joined are not necessarily subjected to a joining treatment soon after applying the joining auxiliary agent, the joining strength of both polyamide resins is not lost. Therefore, the claimed joining auxiliary agent can be applied to a variety of joining operation steps.

Furthermore, the claimed composition has surprising and unexpected results over a joining auxiliary agent without both compound (1) and compound (2). Fig. 8 of the present application compares Example 18 (an agent without a compound (2)) with Example 26 (an agent with compound (2)). Fig. 8 shows that the joining strength of Example 18 decreases over time,

whereas the joining force of Example 26 is maintained over time. See Fig. 18 and paragraph [0052] of the specification. [Applicants recognize that Fig. 8, as originally filed, incorrectly listed "Example 16" rather than "Example 18." Accordingly, as discussed above, a Replacement Drawing is submitted herewith.]

A. Isobe

Isobe does not teach or suggest the joining auxiliary agent of claim 1. In this regard, the Examiner states that claim 3 has been incorporated into this rejection because, as presently recited, compound (2) reads on and overlaps in scope with the recitation of compound (1), both components simultaneously being met by the phenolic compound of the reference. However, as recited in amended claim 1, compound (2) is distinct from compound (1), and Applicants respectfully submit that Isobe does not disclose Applicants' compound (2).

Furthermore, Isobe discloses a joining auxiliary or an adhesive to join the two preformed parts, in which a molding process and joining process are carried out separately. On the other hand, in the claimed invention, two processes are carried out together, at the same time.

Furthermore, the joining mechanism of the claimed invention is quite different from Isobe, as described in paragraph [0016] of the present specification.

Moreover, in the claimed invention, another part is not formed and will be joined at the time of molding. However, in Isobe, two parts are already formed before joining.

Therefore, claim 1 would not have been anticipated or rendered obvious by Isobe. Claims 4, 9, 10 and 16 depend from claim 1 and, thus, also would not have been anticipated or rendered obvious by Isobe. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

B. Noguchi

Noguchi does not teach or suggest the joining auxiliary agent of claim 1. Similarly to the discussion set forth above in connection with the Isobe reference, Applicants take the position that Noguchi also does not disclose compound (2) as set forth in amended claim 1.

Furthermore, Noguchi also discloses a joining auxiliary or an adhesive to join two preformed parts, in which a molding process and joining process, are carried out separately. However, in the claimed invention, the two processes are carried out together, at the same time.

Moreover, the joining mechanism of the claimed invention is quite different from Noguchi, as described in paragraph [0016] of the present specification.

In addition, in the claimed invention, another part is not formed and will be joined at the time of molding. However, in Noguchi, two parts are already formed before joining.

Therefore, claim 1 would not have been anticipated or rendered obvious by Noguchi. Claims 4, 9, 10 and 16 depend from claim 1 and, thus, also would not have been anticipated or rendered obvious by Noguchi. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

V. Double Patenting

The Examiner provisionally rejects claims 1, 3, 4, 6, 8-10, 13, 15, 16, 18 and 19 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of co-pending U.S. Application No. 11/587,919, and over claims 1-11 of co-pending U.S. Application No. 11/662,268.

Because the claims in the co-pending applications have not yet been patented, and the present application has an earlier filing date than the co-pending applications, Applicants

respectfully request that the Examiner hold the double patenting rejections in abeyance until such time as the present claims are ready for patenting.

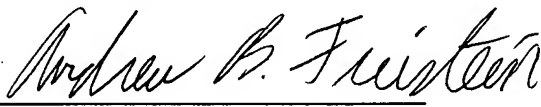
VI. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1, 4, 8-10, 13, 15, 16 and 19, and rejoinder and prompt allowance of claims 2, 5, 7, 11, 12 and 17 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place the application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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